

### **Remarks**

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-5, 7-10, 12-16 and 39-54 remain in this application. Claims 6, 11, 36, and 37 have previously been canceled without prejudice. Claims 17 – 35 and 38 have previously been withdrawn from consideration, without prejudice.

The Title of the Invention has been amended at the request of the Patent Office. Acknowledgement of the amendment is respectfully requested in an Advisory Action or Notice of Allowability.

Applicants traverse the designation of the second Office Action, mailed December 9, 2003, as being a Final Office Action and respectfully request reconsideration of the “final” designation.

Applicants submit that Applicants’ amendment submitted on October 17 and November 13, 2003 in response to the previous Office Action mailed on June 18, 2003 did not necessitate the new grounds of rejection presented in the outstanding Office Action. Applicants submit that the previous amendments were submitted in response to the previous rejection under 35 U.S.C. §112, second paragraph appearing in the Office Action mailed June 18, 2003. In the second Office Action, the Patent Office rejected claims on new grounds not previously advanced by Examiner. The Patent Office has introduced and applied two new references (viz. US 6,477,306 Berkey et al. and Shang) to the claims and Applicants have had no opportunity to address these rejections as a matter of right.

Accordingly, Applicants submit that the designating of the second office action, mailed December 9, 2003, as being a final office action was premature and improper, and Applicants request removal of the finality of the action.

Claims 9-10, 41, and 43-54 have been rejected under 35 U.S.C. 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection is traversed.

The Patent Office asserts that Claim 9 is not accurate in that Claim 1 requires that “the soot” is on the mandrel, and that the glass which is on the tube is not on the mandrel, and therefore it is other soot.

Applicants submit that Claim 9 is accurate and clear. Claim 1 recites “depositing soot onto a substrate”. Claim 9 recites “during the depositing step, a portion of the soot is deposited on the tubular glass body”. Thus, in Claim 9, to the extent that soot is being deposited anywhere, a portion of the soot is deposited on the tubular glass body (per Claim 9) and a portion of the soot is deposited on the substrate (per Claim 1). In preferred embodiments, such as illustrated in Fig.1 of the present application, a source of soot, such as soot-generating burner 34, deposits soot onto substrate or bait rod or mandrel 30 as well as onto tubular handle 32. That is, a portion of “the soot” from the burner is deposited onto the tubular handle 32 (cf. Claim 9). However, whether the soot being deposited comes from one or more burners, i.e. from any number of soot sources, the claimed features of Claims 1 and 9 relate to soot being deposited in the depositing step regardless of the number of soot sources. Claim 9 recites that a portion of that soot being deposited is deposited on a tubular glass body. Applicants submit that Claim 9 is therefore accurate, clear, definite and unambiguous. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claim 9.

The Patent Office asserts that Claim 43 is not acceptable/definite by MPEP 2173.05(h) as not being understood as to whether it requires insertion into both ends, or only one of the ends.

Applicants submit that Claim 43 is acceptable and definite. Claim 43 recites “inserting a first glass body into the centerline hole at one of the opposing first and second ends of the soot body.” Applicants submit that the language of Claim 43 reflects that the first glass body is inserted into either the first end or the second end of the soot body, wherein the first and second ends are opposing ends. Applicants further submit that one could not simultaneously insert a first glass body into both opposing ends, and therefore Claim 43 is clear and definite. Applicants further submit that in Claim 43 there is no uncertainty or ambiguity with respect to the question of scope or clarity of the claims, particularly with respect to the language “one of the opposing first and second ends”, and therefore the alternative limitations outlined in MPEP 2173.05(h) are not necessary to avoid uncertainty or ambiguity because Claim 43 is already accurate, clear, definite, certain and not ambiguous. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claim 43.

The Patent Office asserts that Claims 47-49 are unclear as to whether the claims are to be interpreted as “at least one member of the group comprising” or “at least one member of the group consisting”.

Applicants submit that Claims 47-49 are accurate, clear, definite, certain, and unambiguous as presented. Applicants further submit that none of Claims 47-49 contain Markush group language, nor is such language necessary. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claims 47-49.

Claims 1-3, 7-10, 12-15, and 41-45 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5,917,109 (Berkey '109) in view of Shang ("Low-OH MCVD Fibres without a Barrier layer Using OH-OD-exchanged substrate Tubes" Electronics Letters Vol. 19, No. 3, pages 95-96 (Shang) and/or Burrus 4,515,612 (Burrus).

Applicants traverse the rejection.

Applicants submit that while the first paragraph of Shang discloses that "starting glass materials ( $\text{SiCl}_4$ ,  $\text{GeCl}_4$ ,  $\text{POCl}_3$ ,  $\text{BCl}_3$  and oxygen) and OH ion in-diffusion from the substrate tube both contribute to the total OH in the preform". The starting glass materials are not "starting glass objects" but rather constitute precursor materials that are converted into glass particles and deposited on the interior of a substrate tube, the deposited material eventually forming a part of the optical fiber of Shang. The substrate tube eventually forms a part of the optical fiber of Shang. That is, Shang teaches that the OH ion content of the starting materials and its target tube, both of which form the part of the preform that is drawn into optical fiber, contributes to the water content of the drawn fiber. However, Shang does not disclose or even suggest that the OH ion content of a glass object which does not become part of the drawn optical fiber has any effect whatsoever on the water content of the drawn optical fiber. In contrast, the plugs or tubular handle, for example, of the present invention are not drawn into optical fiber, i.e. the glass objects such as the plugs or tubular handle do not form part of the drawn fiber. Applicants note that the lowest OH ion (water) content reported in Shang is reflected by an attenuation of 0.7 dB/km at 1.39  $\mu\text{m}$ . In contrast, in at least one embodiment, the present invention provides an optical fiber having an attenuation at 1.38  $\mu\text{m}$  of less than or equal to 0.31 dB/km. Neither Berkey '109 nor Shang teach or even suggest deuterating a glass object which does not become part of the drawn optical fiber, and neither Berkey nor Shang contain any motivation to be combined with the other to arrive at the present invention. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claims 1-3, 7-10, 12-15, and 41-45 under 35 U.S.C. 103(a).

Similarly, Applicants submit that while col. 2 lines 41-53 and col. 6 lines 28-37 of Burrus discloses that substrate material, (MCVD) substrate tubes, preform rods or tubes can be deuterated to reduce the OH-content of drawn fiber, those materials or rods or tubes eventually form a part of the optical fiber of Burrus. However, Burrus does not disclose or even suggest that the OH ion content of a glass object which does not become part of the drawn optical fiber has any effect whatsoever on the water content of the drawn optical fiber. In contrast, the plugs or tubular handle, for example, of the present invention are not drawn into optical fiber, i.e. the glass objects such as the plugs or tubular handle do not form part of the drawn fiber. Neither Berkey '109 nor Burrus teach or even suggest deuterating a glass object which does not become part of the drawn optical fiber, and neither Berkey nor Burrus contain any motivation to be combined with the other to arrive at the present invention. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claims 1-3, 7-10, 12-15, and 41-45 under 35 U.S.C. 103(a).

Claim 16 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey '109 and Shang and/or Burrus as applied to Claim 1, and further in view of Freund 4685945 (Freund). The Patent Office asserts that Berkey does not teach deuteration of the fiber, however Berkey discusses reducing water/hydroxyl contamination at col. 2 lines 25-28 and col. 3 lines 19-24, and Freund is directed to improving fibers of low-hydroxyl fibers, e.g. at col. 2 lines 57-63, and therefore the Patent Office concludes that it would have been obvious to perform the Freund method (claim 1) on the Berkey fiber for the advantages that Freund discloses.

Applicants traverse the rejection.

As discussed above, neither Berkey '109 nor Shang nor Burrus teach or suggest deuterating a glass object which does not become part of the drawn optical fiber in order lower the OH-ion concentration in the drawn fiber. Freund does not cure the deficiency of Berkey, Shang and Burrus. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claim 16 under 35 U.S.C. 103(a).

Claims 1-5, 7-10, 12-16, and 39-54 have been provisionally rejected under 35 U.S.C. §103(a) as being obvious over copending Application Nos. 09/722,804, 09/996,632, 09/822,168, and/or 09/558,770, which have a common assignee with the instant application. The Patent Office asserts that based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented, and this provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application, wherein the rejection is in view of Burrus. The Patent Office concludes that it would have been obvious to alter the inventions of the prior applications by deuterating the glass objects, so as to reduce contamination due to OH diffusion. The Patent Office indicated that the rejection might be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Enclosed herewith is an Affidavit Disqualifying Co-Pending Application As Prior Art submitted to obviate the provisional rejection of Claims 1-5, 7-10, 12-16, and 39-54 under 35 U.S.C. §103(a) as being obvious over the aforementioned copending Application Nos. 09/722,804, 09/996,632, 09/822,168, and/or 09/558,770 and Burrus. Accordingly, in view of the Affidavit, Applicants request reconsideration and withdrawal of the rejection of Claims 1-5, 7-10, 12-16, and 39-54 under 35 U.S.C. §103(a).

Claims 1, 4, 5, 39-40 and 49-54 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 19 (and 18 for claim 39) of U. S. Patent No. 6,477,305 (Berkey '305).

The enclosed Terminal Disclaimer is submitted herewith to obviate the rejection. Accordingly, in view of the Terminal Disclaimer, Applicants request reconsideration and withdrawal of the rejection of Claims 1, 4, 5, 39-40 and 49-54 under 35 U.S.C. §103(a).

Claims 42-48 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18-19 of U.S. Patent No. 6,477,305 (Berkey '305) in view of Burrus 4,515,612. The Patent Office asserts that Burrus col. 6 lines 28-37 and elsewhere discloses deuterating starting tubes and rods so as to greatly reduce contamination from OH, and therefore it would have been obvious to deuterate the '305 tube so as to prevent contamination.

Applicants traverse the rejection. Applicants submit that Burrus discloses deuterating starting tubes and rods which eventually constitute the drawn optical fiber. In contrast, the tube 32 (Fig. 2) of the Berkey '305 patent does not eventually constitute the drawn optical fiber of the '305 patent, and therefore it would not have been obvious to deuterate the Berkey '305 tube so as to prevent contamination of the drawn fiber. Accordingly, Applicants request reconsideration and withdrawal of the rejection of Claims 42-48 under 35 U.S.C. §103(a).

Additionally, the enclosed Terminal Disclaimer is submitted herewith to obviate the rejection and to speed prosecution of Claims 42-48, and withdrawal of the rejection of Claims 42-48 is requested.

Claims 1-5, 7-9, 12-16, 39-41 and 49-54 have been rejected under 35 U.S.C. 102(e) as being anticipated by Berkey 6,477,305 (Berkey '305).

The enclosed 37 C.F.R. 1.132 Affidavits are submitted herewith to overcome the rejection by establishing that any invention disclosed but not claimed in Berkey '305 was derived from the inventors of the present application and thus Berkey '305 is not the invention "by another".

## **Conclusion**

Based upon the above amendments, remarks, and papers of record, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests reconsideration of the pending claims 1-5, 7-10, 12-16 and 39-54 and a prompt Notice of Allowance thereon.


Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Joseph M. Homa at 607-974-9061.

Respectfully submitted,

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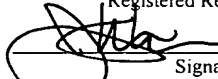
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